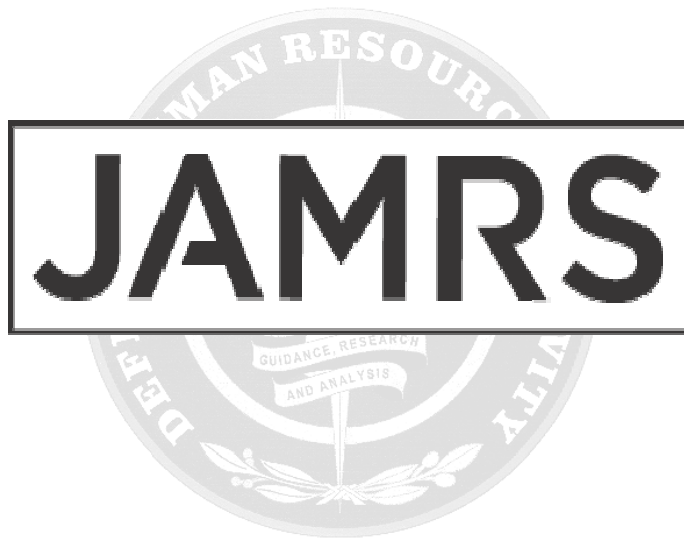


**JAMRS Report No. 2005-02**  
**September 2005**

**MILITARY KNOWLEDGE STUDY:  
MEASURING MILITARY KNOWLEDGE AND EXAMINING  
ITS RELATIONSHIP WITH YOUTH PROPENSITY**

**Bryan K. Wiggins  
Kara A. Marsh, Ph.D.  
Luciano Viera  
Sean M. Marsh, Ph.D.  
Fors Marsh Group**

**Matt Boehmer  
Joint Advertising, Market Research and Studies**



**Department of Defense  
Defense Human Resources Activity  
Joint Advertising, Market Research and Studies  
4040 N. Fairfax Drive, Suite 200, Arlington, VA 22203-1613**

<b>REPORT DOCUMENTATION PAGE</b>					<i>Form Approved</i> <i>OMB No. 0704-0188</i>	
<small>The public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to the Department of Defense, Executive Services and Communications Directorate (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.</small>						
<b>PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ORGANIZATION.</b>						
<b>1. REPORT DATE (DD-MM-YYYY)</b> XX-09-2005		<b>2. REPORT TYPE</b> Final overview			<b>3. DATES COVERED (From - To)</b> December 2004 - September 2005	
<b>4. TITLE AND SUBTITLE</b> Military Knowledge Study: Measuring Military Knowledge and Examining Its Relationship with Youth Propensity					<b>5a. CONTRACT NUMBER</b> DASW01-02-D-0002/0036	
					<b>5b. GRANT NUMBER</b>	
					<b>5c. PROGRAM ELEMENT NUMBER</b>	
<b>6. AUTHOR(S)</b> Wiggins, B. K., Marsh, K. A., Viera, Jr. L., Marsh, S. M., and Boehmer, M.					<b>5d. PROJECT NUMBER</b>	
					<b>5e. TASK NUMBER</b>	
					<b>5f. WORK UNIT NUMBER</b>	
<b>7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)</b> Joint Advertising, Research and Studies Defense Human Resources Activity 4040 N. Fairfax Drive, Suite 200 Arlington, VA 22203-1613					<b>8. PERFORMING ORGANIZATION REPORT NUMBER</b>	
<b>9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)</b> Joint Advertising, Research and Studies Defense Human Resources Activity 4040 N. Fairfax Drive, Suite 200 Arlington, VA 22203-1613					<b>10. SPONSOR/MONITOR'S ACRONYM(S)</b>	
					<b>11. SPONSOR/MONITOR'S REPORT NUMBER(S)</b> 2005-002	
<b>12. DISTRIBUTION/AVAILABILITY STATEMENT</b> Approved for public release; distribution is unlimited.						
<b>13. SUPPLEMENTARY NOTES</b>						
<b>14. ABSTRACT</b> <p>Three types of knowledge were investigated in this study: subjective, instrumental and symbolic knowledge. Measuring these three distinct types of military knowledge provided rich and complete information on youth knowledge of the military. This information can be useful in developing advertising campaigns to target misperceptions or strengthen connections between the military and images that promote propensity and enlistment.</p> <p>Examining the relationship of military knowledge with youth propensity to join the military is important because attitudinal research suggests that individuals who are more familiar with an organization report being more attracted to that organization and respond more favorably to recruiting practices.</p>						
<b>15. SUBJECT TERMS</b> Youth Propensity, Military Recruiting						
<b>16. SECURITY CLASSIFICATION OF:</b>			<b>17. LIMITATION OF ABSTRACT</b>		<b>18. NUMBER OF PAGES</b>	
a. REPORT U	b. ABSTRACT U	c. THIS PAGE U	SAR		<b>19a. NAME OF RESPONSIBLE PERSON</b> Andrea Zucker	
					<b>19b. TELEPHONE NUMBER (Include area code)</b> (703) 696-7178	

## Acknowledgements

The authors would like to thank the military recruiters, new enlistees, and the youth in Houston and Orlando whose participation made this study possible. We would also like to personally thank LTC Campbell, Sr MSgt Gleason, and LTC Hamilton for being so helpful to us at the Baltimore MEPS.

## Table of Contents

<b>Overview .....</b>	<b>1</b>
<b>Introduction .....</b>	<b>2</b>
<i>Measuring Military Knowledge.....</i>	<i>2</i>
<i>Military Knowledge and Propensity .....</i>	<i>4</i>
<b>Method .....</b>	<b>6</b>
<i>Sample .....</i>	<i>6</i>
<i>Procedures .....</i>	<i>6</i>
<i>Measures .....</i>	<i>7</i>
<i>Subjective Knowledge .....</i>	<i>7</i>
<i>Instrumental Knowledge .....</i>	<i>7</i>
<i>Symbolic Knowledge .....</i>	<i>8</i>
<b>Findings.....</b>	<b>9</b>
<i>Subjective Knowledge .....</i>	<i>9</i>
<i>Instrumental Knowledge.....</i>	<i>9</i>
<i>Factual Knowledge .....</i>	<i>9</i>
<i>Expertise .....</i>	<i>10</i>
<i>Symbolic Knowledge.....</i>	<i>11</i>
<i>Propensed vs. Non-Propensed Youth .....</i>	<i>11</i>
<i>Propensed Youth vs. Enlistees and Military Recruiters .....</i>	<i>12</i>
<b>Conclusions .....</b>	<b>14</b>
<b>References.....</b>	<b>15</b>

## Table of Contents (cont.)

### List of Tables

Table 1.	Demographic Breakdown of Participating Counties and National Average .....	17
Table 2.	Means, Standard Deviations, and Correlations of Key Variables.....	18
Table 3.	Factual Knowledge Test Items and Percent Correct by Group.....	19
Table 4.	Factual Knowledge Test Items and Percent Correct by Group (Service-specific) ..	22
Table 5.	Closeness (C) Measure of Similarity Between Structural Knowledge Maps. ....	26

### List of Figures

Figure 1.	Subjective Knowledge By Gender ( <i>Source: JAMRS Youth Polls</i> ) .....	27
Figure 2.	Summary of the Relationships between Different Types of Military Knowledge and Youth Propensity.....	28
Figure 3.	Youth Sample Demographics: Gender .....	29
Figure 4.	Youth Sample Demographics: Race/Ethnicity .....	30
Figure 5.	Youth Sample Demographics: Highest Level of Education Completed .....	31
Figure 6.	Youth Sample Demographics: Income Level.....	32
Figure 7.	Mean Subjective Military Knowledge Ratings by Group .....	33
Figure 8.	Military Factual Knowledge Multiple Choice Test Percent Correct by Group.....	34
Figure 9.	Propensed Youth Knowledge Structure Map .....	35
Figure 10.	Non-Propensed Youth Knowledge Structure Map .....	36
Figure 11.	Enlistee Knowledge Structure Map.....	37
Figure 12.	Military Recruiter Knowledge Structure Map .....	38
Figure 13.	Propensed Youth: Connection between Personal Concepts and Military Concepts.....	39
Figure 14.	Non-Propensed Youth: Connection between Personal Concepts and Military Concepts.....	40
Figure 15.	Military Knowledge at Different Stages of the Recruiting Process .....	41

# **Military Knowledge Study: Measuring Military Knowledge and Examining its Relationship with Youth Propensity**

## **Overview**

Previous research suggests that youth who are more knowledgeable about the Military are more likely to be propensed (Emanuel et al., 2004); however, this relationship has not been examined in-depth. The goal of this study was to examine this relationship by considering three types of knowledge: subjective, instrumental, and symbolic. Subjective knowledge, which has been measured in previous JAMRS Youth Polls, reflects how much a person believes he or she knows about the Military. Instrumental knowledge reflects how much a person actually knows about the Military in terms of objective facts or information. Finally, symbolic knowledge represents how one thinks about the Military in relation to other concepts. Responses to measures of each type of knowledge were gathered from 63 propensed youth and 77 non-propensed youth. For comparisons purposes, data were also collected from 47 enlistees at the Baltimore Military Entrance Processing Command (MEPCOM) and 5 military recruiters.

The results revealed that subjective knowledge is not a good indicator of how much one actually knows about the Military – what people think they know and what they actually know are not the same. Instead, subjective knowledge is probably a better indicator of familiarity with the Military. Additionally, propensity was systematically related to symbolic knowledge. Propensed youth associated different images with the Military than non-propensed youth. Of note, propensed youth associated both positive and negative concepts with war, whereas non-propensed youth associated only negative concepts. Furthermore, propensed youth made a connection between war and personally relevant concepts, most importantly defending and protecting their family. Symbolic images held by youth also differed from images conveyed by enlistees and recruiters. In particular, enlistees and recruiters felt an obligation to the Military and made more connections between personally relevant concepts (e.g., career success, happiness, personal growth) and the Military signaling a higher level of fit with the Military than youth. Evidence also suggested that instrumental knowledge, particularly with regard to facts about military benefits and programs, does not play a critical role in driving propensity. Rather, this type of knowledge distinguished propensed youth from enlistees, suggesting that propensed youth who are more knowledgeable about benefits and programs offered by the Military may be more likely to advance to the enlistment stage of the recruiting process.

The findings have direct implications for messages and images that can be used by recruiters and advertisers to more effectively target youth.

## Introduction

A recruiter speaking to a group of high school students asks them about their post-graduation plans. When asked if they plan to go to college, most hands go up. When asked about getting a job, a few additional hands go up. Finally, when asked about military service, not a single hand is raised. The recruiter asks why none of the students have considered the Military and the conversation shifts to grueling descriptions of car bombings and gun shots in Iraq. It becomes abundantly clear to the recruiter that images of the current military conflict are dominating youths' views of the Military.

Recruiters are increasingly confronting negative images of the Military relentlessly portrayed in the media. Not surprisingly, several Military Services have recently fallen short of their monthly recruiting goals. Many have proposed these recruiting shortfalls to be the result of overly negative images of the Military fueled by military engagements around the globe. Yet, there has been little in-depth consideration of how much or what youth actually know about the Military and how their knowledge of the Military influences their intentions regarding military service.

Department of Defense Youth Polls conducted by the Joint Advertising, Market Research and Studies (JAMRS) program have attempted to measure military knowledge using a one-item, self-report measure asking respondents to rate how knowledgeable they are about the U.S. Military. Results have consistently revealed a positive relationship between military knowledge and youth propensity (Emanuel et al., 2004), such that youth who reported being more knowledgeable also reported being more propensed. Results also show that most youth tend to be only moderately knowledgeable about the Military (see Figure 1). However, this measure of military knowledge is limited in that it conveys only what youth *think* they know about the Military. It does not provide any detail about what they actually know.

Other research also suggests a positive relationship between military knowledge and propensity. For example, Giambo (1996) measured military knowledge using a set of short-response questions covering topics such as distinctions between Active and Reserve duty, military pay and benefits, and the nature of military jobs. The results provided some indication that propensed youth tend to be more knowledgeable about these topics. The same study also showed that youth are generally not very knowledgeable about the Military.

In all, prior work indicates that military knowledge plays a role in positively influencing youth propensity, but how or why is not clear. It is clear, however, that youth are generally uninformed when it comes to the Military. Thus, the goal of the current study was to conduct a more in-depth investigation of military knowledge for two reasons: (1) to improve the measurement of military knowledge so youth with different level of knowledge can be meaningfully distinguished from one another, and (2) to develop a better understanding of the relationship between military knowledge and propensity in an effort to provide guidance to enhance future recruiting and advertising efforts.

### *Measuring Military Knowledge*

Three types of knowledge were investigated in this study. The first, subjective knowledge, reflects how much one thinks they know about the Military. Subjective knowledge measures, such as the one used in the JAMRS Youth Polls, take a global perspective, asking youth to rate one item: "How much do you think you know about the Military?" This

measurement approach tends to be less precise because responses often reflect a wide variety of information, including confidence, familiarity, and general knowledge. While this macro-level index is easy to collect and report, the lack of specificity makes it difficult to use in advertising and recruiting contexts, as it is difficult to discern actionable recommendations.

Second, two aspects of instrumental knowledge were measured. Instrumental knowledge reflects one's understanding of how something functions or operates. Factual knowledge is one aspect of instrumental knowledge that indicates how knowledgeable one is regarding facts and specific information. In a Military context, this might include details regarding military pay, benefits, commitment, leadership, etc. Expertise is another aspect of instrumental knowledge that was investigated. Expertise was evaluated by comparing youths' views about the Military with those of military recruiters. The assumption is that recruiters have more advanced ways of thinking about the Military given their experience, and, thus, can be considered experts. Expertise among youth was quantified as the degree to which a youth is similar to a recruiter in terms of the connections they make between the Military and key concepts. For instance, military recruiters know a lot about the various benefits, packages, and opportunities offered by the Military to help young people further their education; whereas, most youth do not know about many of the available opportunities. In this case, military recruiters are likely to make a stronger connection between the Military and higher education than youth, on average, and youth who make a connection between the two would be considered to have more military expertise than youth who did not.

Third, symbolic knowledge was measured using a set of procedures that has been advanced in the psychology literature (for example, see Goldsmith, Johnson and Acton, 1991). Similarity ratings among a set of concepts are used to quantitatively deduce a knowledge structure map. The map is simply an arrangement of the concepts that reflect the similarity ratings, with similar concepts being connected to one another and dissimilar concepts sharing no connection or connections only through other concepts. These maps provide unique insight into how an individual thinks about the Military, and allow for comparisons among different individuals. Symbolic knowledge is inherently more abstract, involving images and mental representations of the Military driven by media coverage of current events, advertisements, and stereotypes, and are, thus, more difficult to quantify. Regardless, this type of analytic approach is extremely valuable in that it provides a way to systematically and reliably identify and compare different images youth have of the Military.

In all, measuring three distinct types of military knowledge provided several benefits. For one, doing so made it possible to draw conclusions about the validity and adequacy of the subjective knowledge measure that has been used repeatedly in JAMRS Youth Polls. At present, this measure is being used without any hard evidence to support that it is really a measure of knowledge. Additionally, measuring instrumental knowledge and symbolic knowledge made it possible to identify more precisely what it is that youth know and do not know about the Military, as well as the kinds of images they associate with the Military. Finally, gathering richer and more complete information on youth knowledge of the Military can be extremely useful in developing advertisement campaigns to target common misperceptions or strengthen connections between the Military and images that promote propensity and enlistment. Figure 2 provides an illustration summarizing the different types of knowledge measured in this study.



## *Military Knowledge and Propensity*

Accurately and reliably measuring military knowledge is just half the story. The perhaps more interesting half of the story is trying to figure out how and why knowledge affects youth propensity – which is an essential part of being able to meaningfully inform recruiting efforts. One explanation for the positive relationship between subjective knowledge and propensity revealed in the JAMRS Youth Polls comes from past research on attitudes. Attitudinal research suggests that people tend to be more comfortable with, and feel less threatened by those things with which they are familiar (Zimbardo & Leippe, 1991). Subjective knowledge, because it relies on self-reported ratings of how much one thinks they know about the Military, may really be getting at how familiar someone is with the Military. Other studies have shown that individuals who are more familiar with an organization report being more attracted to that organization and respond more favorably to recruiting practices (Cable & Graham, 2000; Collins & Stevens, 2002; Gatewood, Gowan, & Lautenschlager, 1993). As such, a higher level of familiarity or comfort with the Military may be what drives propensity among youth who report higher subjective knowledge in the JAMRS Youth Polls.

The Instrumental-Symbolic framework (Aaker, 1999; Keller, 1998) used in marketing research also provides more insight on how instrumental knowledge and symbolic knowledge are related to propensity. This framework, which incorporates both the role of brand facts and images to explain consumer attraction and choice of various products, has been generalized to organizational settings and suggests that both symbolic factors (e.g., images and reputation of the organization) and instrumental factors (e.g., factual information about an organization) play a role in organizational attraction (Lievens & Highhouse, 2003). Past research has found that when lacking factual knowledge, attraction to an organization is driven primarily by the images people associate with that organization (Rynes, Bretz, & Gerhart, 1991).

Evidence already presented (i.e., Emanuel et al., 2004; Giambo, 1996) suggests that youth lack factual knowledge of the Military. Over the years, a gradual reduction in force size and the move to the All-Volunteer Force means that many more youth have grown-up without close friends and family who have served in the Military. Furthermore, it has been reported that high school educators are increasingly pushing college, an option which many educators are more familiar with (Marsh, Emanuel, Bader & Marsh, 2004), while neglecting information about the Military. These and other factors may be contributing to decreased knowledge of the Military among youth. As a result, the Instrumental-Symbolic framework would suggest that in the absence of factual knowledge, it is the images youth associate with the Military that play a critical role in their attraction to the Military and subsequent choices they make regarding Military service.

Military images fueled by the media, friends, and family may affect propensity through different mechanisms, three of which are particularly relevant. First, *signaling theory* suggests that people use general impressions or stereotypes to infer characteristics about an organization as a whole when specific knowledge is absent or limited (Einhorn & Horgarth, 1981; Spence, 1973). In effect, this tends to result in a situation where grossly limited and often extreme views about one aspect of the organization are transferred to the organization as a whole. For example, if the most salient experience a youth has with the Military is media images of burned-out Light Armored Vehicles (LAVs) in Iraq, he or she may generalize that image to all aspects of the Military, coming to believe that imminent danger and grave risk are associated with every Military Occupational Specialty (MOS).

Second, *social identity theory* proposes that individuals are motivated to associate with people and things that they believe will increase their own self-esteem (Tajfel & Turner, 1985). When making a career decision, social identity theory would predict that youth will try to align themselves with an organization that they believe will make them feel good about themselves (e.g., an organization that is prestigious and has goals that are consistent with their values). The images youth associate with the Military provide an indication of the extent to which they will identify with the Military and subsequently make choices in the future to strengthen their association with the Military (i.e., enlist).

Finally, youths' receptivity to information about the Military (e.g., from advertisements, recruiters, adults in the community) may be increased or decreased depending on the images they associate with the Military. Youth with positive images may be more inclined to listen to, interpret, and remember information that is consistent with those images. In the psychology literature, this is referred to as the *confirmation bias*. For example, when the confirmation bias is at work, we would expect that a military commercial featuring money for college would be more effective in reaching a youth who is already attracted to the Military than one who is not because he or she would not only be more likely to notice the commercial, but also more likely to remember it. Consistent with the Instrumental-Symbolic framework, this scenario suggests that factual information plays a different role in motivating youth depending upon whether or not they view the Military positively or negatively in the first place.

Overcoming confirmation bias, aligning the Military as an organization with a youth's identity, and shaping the way youth think about the Military to be more positive can be extremely difficult, especially given that these views are often deeply ingrained and selectively reinforced. However, it is a necessary step if recruiters and advertisers are to be successful in reaching youth. Understanding the images youth associate with the Military and how the acquisition of instrumental or factual knowledge is related to those images will facilitate this process.

## Method

### *Sample*

Youth were recruited by professional research firms in two metropolitan areas (Houston, TX and Orlando, FL). These cities were chosen because their demographics are highly representative of national race/ethnicity breakdowns, education levels and household incomes. Both cities also have a relatively high percentage of accessions, which helped to ensure that enough propensed youth would be included in the sample. Table 1 provides a demographic summary of the participating counties, as well as the national averages.

Data were collected from a total of 140 youth. Youth were pre-screened and grouped into two categories: propensed and non-propensed. The propensed group consisted of 63 youth who indicated that they were “Highly Likely” or “Likely” to join the Military. The non-propensed group consisted of 77 youth who indicated they were “Very Unlikely” or “Unlikely” to join the Military. The youth sample was predominately male (58%) and White (42%) (see Figures 3 and 4). Forty-six percent of the participants indicated that “some high school” was their highest level of education completed, while 17% had a high school degree, and 28% had attended at least some college (see Figure 5). The youth sample also included a range of household income levels (see Figure 6).

Data were also collected from two comparison groups. First, 47 enlistees participated in the study at the Baltimore Military Entrance Processing Command (MEPCOM) in Fort Meade, MD. Most of the enlistees (70%) were between the ages of 16 and 21, 26% were 22-29 and 4% were 30-39. These individuals had qualified and signed-up for military service, but had not yet been processed into the Military, nor had they enrolled in the delayed entry program (DEP). This group, thus, acted on their propensity by signing-up for military service, but had not yet been indoctrinated into the Military way-of-life.

The second comparison group consisted of five military recruiters who were considered military experts. One recruiter each from the Army, Navy, Marine Corps, Air Force, and Coast Guard participated in the study. All of the recruiters had more than 10 years of military service, and three had 20+ years of service. In addition, each recruiter had at least three years of recruiting experience, with four-out-of-five having recruited for more than six years.

### *Procedures*

Youth were recruited to participate and scheduled in groups of 4-8. Enlistees completed the measures in groups of 4-8 at the Baltimore MEPCOM prior to swearing-in to the Military. Recruiters completed the measures individually at their own office. All measures were administered via laptops and the entire study took less than one-hour to complete.

Participants were first informed that they would be participating in a study sponsored by the Department of Defense to find out how knowledgeable the general public is about the Military. Participants were reassured that all of their answers would be kept confidential and that they would not be contacted as a result of the study.

Next, participants provided demographic information and completed a 27-item multiple-choice test on the Military. They then completed a word-pair rating exercise on the laptop using a proprietary software program (Schvaneveldt, 1990). Participants were instructed that two words would appear on their screen and they would be prompted to rate the strength of the

relationship between the words using a 1-9 scale, where 1 = No Relationship and 9 = Strong Relationship. All possible paired comparisons for twenty-five different words were rated by participants, resulting in a total of 300 ratings. An example word pair is “U.S. Military” and “Higher Education”. Before beginning this exercise, participants were told that there were no right or wrong answers; instead, the ratings were to be based upon their own beliefs. Furthermore, they were instructed to spend no more than 5-7 seconds per word-pair in order to help ensure that their ratings captured their initial impressions.

## *Measures*

***Subjective Knowledge.*** Subjective knowledge was evaluated using the same one-item military knowledge measure used in past JAMRS Youth Polls. Participants were asked “How knowledgeable are you about the U.S. Military?” and instructed to respond using a 10-point scale, where 1 = Not Very Knowledgeable and 10 = Very Knowledgeable.

***Instrumental Knowledge.*** Two aspects of instrumental knowledge were measured: (1) factual knowledge and (2) expertise. To measure factual knowledge, a multiple-choice test was developed. The items comprising the test came from several sources including similar tests previously developed by the Army Research Institute (Legree & Pifer, 1996) and Westat (Giambo, 1996), as well as items developed by the research team. After an initial set of questions were generated, a pilot test was conducted with members of the U.S. Military and university students completing the test and providing feedback in order to arrive at a final set of 27-items covering the following military topics: general knowledge, benefits, careers/commitment and Service-specific facts. Questions ranged from easy to difficult.

The second aspect of instrumental knowledge, expertise, was measured as the similarity in how youth and recruiters view the Military. Twenty-five concepts used in the word-pair rating exercise were identified through a card sorting method. Three Active Duty members of the U.S. Military were asked to think about how they would explain the Military to a young person interested in joining and to write down the key topics they would address. They were then asked to sort the topics into more general categories. Next, a group of five military and recruiting experts discussed the categories and decided on a final list of 25 concepts. The rating of each of these concepts with every other concept formed the 300 comparisons which were used to create knowledge structure maps.

Proprietary software (Schvaneveldt, 1990) was used to generate the knowledge structure maps, which takes the relatedness ratings of the word pairs and applies a statistical formula to arrive at a map that illustrates how a person relates and organizes a set of concepts. For the current study, the individual knowledge structure maps were aggregated to create one map each for propensed youth, non-propensed youth, enlistees, and recruiters. In the aggregated knowledge structures, for instance, if most individuals in the group rated the “U.S. Military”-“Training” link as highly related, then a link would appear between these two words in the form of a line connecting the two terms. If, however, most individuals did not rate a word pair as being highly associated, for example “War” and “Pay”, then no direct link would appear between these words.

Experts by definition have more in-depth knowledge of a topic area and make more connections between categories of concepts; whereas, novices have more limited knowledge structures because they do not see all the relevant connections. Therefore, the more similar youths’ knowledge structure to that of the expert, the more knowledgeable (or expert) they are

said to be about the topic. The C (closeness) measure, acting as the measure of expertise, is used to quantify how related two knowledge structures are to one another (Goldsmith & Davenport, 1990). The degree of similarity between the knowledge structures of experts and novices has been found to predict novices' exam performance in the education literature (Goldsmith, Johnson, & Acton, 1991; Jonassen, 1993), and novices' knowledge structures have been found to become more similar to those of experts after training (Kraiger, Salas, & Cannon-Bowers, 1995).

***Symbolic Knowledge.*** The knowledge structure maps used to evaluate expertise were also examined qualitatively to assess symbolic knowledge. Group-level knowledge structures were compared to identify differences among the groups. First, we looked at differences in central (or important) concepts. Words with greater numbers of links to other concepts are considered central concepts and are more important to the group. Group differences were also examined by looking at differences in which concepts each group highly associated with the U.S. Military, as well as differences in how key concepts (e.g., happiness, obligation) were related to other concepts.

## Findings

Table 2 contains the means, standard deviations and correlations for the following variables used in this study: gender, education, income, number of family/friends who are/have served in the Military, subjective knowledge, factual knowledge, propensity and expertise.

### *Subjective Knowledge*

Previous research has assumed that subjective knowledge is a measure of factual knowledge, when, in fact, it may be something quite different. The relationship between subjective knowledge and scores on the factual knowledge test were examined to evaluate this assumption. There was a moderate, positive relationship between subjective knowledge and scores on the factual knowledge test ( $r = .29, p < .01$ ). Although this finding indicates that youth who believed they knew more about the Military tended to have more factual knowledge about the Military, the magnitude of this relationship is much smaller than would be expected in the case where both measures were assessing the same thing. The relationship between subjective knowledge and expertise was also evaluated. This relationship was not significant ( $r = .01, ns$ ). This shows that subjective knowledge is not indicative of youths' expertise regarding the Military. Together, these findings support the classification of subjective knowledge as distinct from factual knowledge and expertise, and challenges the assumption that what people *think* they know about the Military and what they *actually* know are one and the same.

Yet, differences in subjective knowledge have been shown to systematically discriminate between propensed and non-propensed youth in past JAMRS Youth Polls, and the findings here point to the same conclusion. Table 2 shows that subjective knowledge was positively related to propensity ( $r = .29, p < .01$ ). Propensed youth reported higher subjective knowledge (Mean = 5.63) than non-propensed youth (Mean = 4.56). Both groups reported significantly lower subjective knowledge than military recruiters (Mean = 9.00). In comparison to enlistees (Mean = 6.13), non-propensed youth reported significantly lower subjective knowledge, but the mean difference between enlistees and propensed youth was not significant (see Figure 7).

Despite the relationship between subjective knowledge and propensity, the question still remains as to what subjective knowledge is really measuring and, thus, why it affects propensity. It is evident from the data that subjective knowledge is not measuring facts or expertise. Instead, subjective knowledge may be more reflective of one's level of comfort or perceived familiarity with the Military. Therefore, future research should be careful about making inferences about military knowledge based solely on global, one-item measures of subjective knowledge.

### *Instrumental Knowledge*

There was only a moderate relationship between scores on the factual knowledge test and expertise ( $r = .31, p < .05$ ). This supports the idea that these are similar, yet distinct aspects of instrumental knowledge. Each will be discussed in turn.

***Factual Knowledge.*** Military recruiters, who comprised the expert sample, scored significantly higher on the multiple choice factual knowledge test than the youth and enlistee groups. Recruiters correctly answered an average of 90% of the questions, while enlistees averaged about 60% correct and youth averaged less than 50% correct (see Figure 8). This



finding is consistent with expectations, given that the recruiters all had served more than 10 years in the Military, and enlistees were nearing the end of the recruiting process.

Test results revealed that both youth groups were particularly deficient in their factual knowledge of the Military across a variety of topics, performing poorly on even some of the simpler questions. For example, only 48% of propensed youth and 53% of non-propensed youth correctly named the Commander-In-Chief of the U.S. Military (George W. Bush). Youth also performed poorly on items regarding careers in the Military (e.g., less than half correctly identified the difference between enlisted service members and officers), and only 5% of propensed youth and 3% of non-propensed youth correctly identified the length of commitment required by Active Duty enlistment (i.e., eight years in the Active military AND the Reserves combined).

Despite self-reported indications from propensed youth that they knew more about the Military than non-propensed youth (i.e., propensed youth reported higher scores on the subjective knowledge measure than non-propensed youth), factual knowledge test scores did not distinguish between these two groups. Table 2 shows that the relationship between factual knowledge and propensity was not significant ( $r = -.15$ ,  $ns$ ). Furthermore, enlistees and recruiters scored significantly higher than both youth groups on the factual knowledge test.

In particular, enlistees were found to be more knowledgeable, particularly in areas that would be of specific interest to someone new to the Military, including military benefits (e.g., level of pay, amount of vacation time) and military programs (e.g., Delayed Entry Program (DEP)). Since enlistees are more likely to have recently talked with recruiters and closely examined different aspects of military service, it comes as no surprise that they scored higher on the factual knowledge test than youth. However, enlistees did not perform well on all aspects of the test. Most notably, only 26% of enlistees correctly identified the length of commitment required by Active Duty enlistment – and these individuals had just enlisted! Therefore, enlistees appear to have sought out and retained only specific information regarding military benefits and programs.

In sum, these findings suggest that factual knowledge is not important in driving propensity. However, it likely plays a role in converting youth from the propensity to enlistment stages of the recruiting process.

Table 3 contains the test results by group for items covering knowledge of the military, in general. Table 4 contains the test results by group for items covering Service-specific knowledge.

*Expertise.* As experts, military recruiters are presumed to have more sophisticated knowledge structures, reflecting a deeper level of understanding of the Military. Comparisons of the overall similarity in knowledge structure maps among recruiters, enlistees, propensed youth, and non-propensed youth revealed that propensed and non-propensed youths' knowledge structure maps were more similar to each other than to those of enlistees or recruiters (see Table 5). Most importantly, this reveals that, contrary to expectations, propensed youth do not have more advanced ways of organizing information about the Military than non-propensed youth.

These findings suggest that it may be difficult to fully develop youths' knowledge structures of the Military during recruitment. Accordingly, it is important for recruiters to recognize and appreciate that youth (even propensed youth) do not think about the Military in the same way they do. Youth may be attracted to the Military for fundamentally different reasons than why a recruiter believes the Military is a good career option. This highlights the important role of market research in identifying and examining youth attitudes toward the Military.

## *Symbolic Knowledge*

As described earlier, the Instrumental-Symbolic framework posits that in the absence of instrumental factors (e.g., facts, expertise), youth will base their attraction towards an organization on general impressions and images portrayed by family members, educators, the media or other sources (Rynes, Bretz, & Gerhart, 1991). Knowledge structure maps for propensed youth, non-propensed youth, enlistees and recruiters are presented in Figures 9-12 and provide unique insight into how these different groups view the Military. In each map, links (in the form of lines) connect concepts that are highly related. Particularly interesting are the concepts directly linked to the concept, “U.S. Military”. These linkages show which concepts each group most closely associates with the Military. While the length of the line connecting two concepts carries no analytic meaning, the number of connections separating two words illustrates how related these words are in a person’s mind. For example, a direct link between “U.S. Military” and “Pay” would indicate a stronger relationship in one’s mind than if “U.S. Military” was linked to “Training” which was linked to “Higher Education” which was finally linked to “Pay”. Additionally, central concepts are those with links to many other concepts. When many words are associated with a concept, it suggests that this concept is important to the group.

While both propensed and non-propensed youth had similar knowledge structure maps, there were several key differences. Concepts that distinguished between propensed and non-propensed youth included:

- *Perceptions of War*
- *Rigidity and the Military*
- *Higher Education*

There were also key differences between propensed youth and both enlistees and recruiters. Propensed youth differed from enlistees and recruiters in how they thought about:

- *Obligation to the Military*
- *Happiness*
- *Military Benefits*

### *Propensed vs. Non-propensed Youth.*

The most striking difference between propensed and non-propensed youth had to do with their perceptions of war. Whereas both youth groups associated war with negative concepts (e.g., fear, death), only propensed youth recognized a positive, personally relevant benefit of war. Specifically, propensed youth viewed war as a means to an important goal, defending and protecting their family. Non-propensed youth, on the other hand, viewed war as entirely separate from other personally relevant concepts, such as family and happiness. With images from the conflicts in Iraq and Afghanistan shown daily on the news, the rationalization of war is probably the single most important aspect of youths’ image of the Military today. It makes sense then that the connections stemming from the U.S. Military and war were the most important distinguishing feature between propensed and non-propensed youths’ knowledge structure maps.

Additionally, another look at the youths’ knowledge structure maps reveals that the concepts are roughly grouped into two categories. One category reflects personal concepts and the other focuses on military concepts. The link between these two concept groupings for propensed youth occurs through the concepts family, defending/protecting, and war (see Figure 13). On the other hand, non-propensed youth connect personal concepts and military concepts



with a link through honor and family (see Figure 14). While non-propensed youth may see the Military as honorable and their family as honorable, this connection is not enough to motivate them toward enlistment. Based on these results, the following recommendation is offered:

- ➡ *Advertising messages that directly address issues of armed conflict are necessary. They must clearly communicate to youth the role of military service in defending and protecting their loved ones.*

Another distinction between propensed and non-propensed youth was how they related rigidity to the Military. Non-propensed youth made a direct connection between rigidity and the Military, indicating an overall impression of the Military as a rigid organization. On the other hand, propensed youth, similar to enlistees and recruiters, associated rigidity with specific aspects of the Military. Propensed youth and recruiters associated rigidity with war, while enlistees associated rigidity with physical challenge. Based on these results, the following recommendation is offered:

- ➡ *Advertising messages should emphasize flexible aspects of military life. They should also aim to “contain” images of rigidity so that they are only associated with specific aspects of military service.*

Another difference between propensed and non-propensed youth had to do with higher education. Higher education was a central concept for non-propensed youth, but not for propensed youth. The centrality of higher education, along with the fact that it was directly linked to obligation by non-propensed youth, indicates that higher education is very important to this group. While higher education was obviously important to non-propensed youth, they did not associate it with the Military. Based on these results, the following recommendation is offered:

- ➡ *Advertising messages need to show non-propensed youth how they can serve in the Military and still fulfill their obligation to higher education. This is different from advertising money for college.*

***Propensed Youth vs. Enlistees and Military Recruiters.*** In several ways, enlistees and military recruiters were similar to each other and distinct from propensed youth. A key difference had to do with images of selflessness. Unlike propensed youth, enlistees and recruiters associated obligation with the Military. Propensed youth felt obligated to their family, and the connection between obligation and the Military was much further removed. In addition, enlistees and recruiters associated happiness with career success achieved in the Military, whereas propensed youth associated happiness with more self-centered concepts, such as personal freedom, personal values, and personal growth. These patterns reflect a sense of duty and obligation on the part of enlistees and recruiters that is not shared by propensed youth. Based on these results, the following recommendation is offered:

- ➡ *Advertising messages should instill in youth the value of “selfless service” using images of obligation to service and achieving personal happiness through career success in the Military.*

In addition, enlistees and recruiters demonstrated a more robust connection between personal concepts and the Military than propensed youth, indicating a higher level of fit with the Military. Specifically, enlistees and recruiters had a variety of paths connecting personal concepts (e.g., personal freedom, personal values, personal growth) with the Military, whereas propensed youth had one – a link through family, defend/protect and war (as described earlier). Many connections between personal concepts and the Military reflect the multiple ways enlistees and recruiters see overlap between themselves and the Military. Based on these results, the following recommendation is offered:

- ➡ *Advertising messages should promote military service as a way youth can meet their needs and achieve their personal goals. They need to show youth that people “like them” serve in the Military.*

A final key difference between enlistees and propensed youth had to do with benefits. For enlistees, benefits were strongly associated with the Military. They linked both tangible benefits (i.e., employee benefits, higher education) and personal benefits (i.e., personal growth, career success) directly to the Military. Propensed youth did not make any of these connections. This finding is in line with the results of the factual knowledge multiple choice test, where enlistees scored higher on questions regarding military benefits and programs, and provides additional support for the idea that benefits become increasingly important as one approaches the enlistment stage of the recruiting process. Based on these results, the following recommendation is offered:

- ➡ *It is critical to get information about benefits and military programs in the hands of propensed youth. This is an essential part of the conversion process. This type of information will be less influential among non-propensed youth.*

In sum, while it may be impossible and unadvisable to attempt to change youths' knowledge structures to fit those of military members, there are lessons to be learned from examining the knowledge structure maps. Most importantly, knowledge structures regarding the Military do change as one becomes more interested and immersed in the Military. Propensed youth linked different concepts to the Military than did the enlistees and recruiters. There were also key distinctions between propensed and non-propensed youth. This suggests that symbolic images and stereotypes of the Military, while not drawn from factual knowledge, do in fact play a critical role in predicting youths' intentions and behaviors regarding military service.

## Conclusions

A key take-away from this study is that different types of military knowledge are more influential at different stages of the recruiting process. Early on, most youth lack factual knowledge of the Military. At this early stage of recruiting, propensed youth have notably different images of the Military than non-propensed youth with regard to perceptions of war, rigidity and higher education. During the conversion process, moving propensed youth toward enlistment appears to be associated with developing a selfless obligation to the Military and seeing a stronger connection between the Military and one's own self-concept, as well as gaining factual knowledge about military benefits, pay and specific programs such as the Delayed Entry Program (DEP). This is illustrated in Figure 15.

The results of this study also provide much needed guidance with regards to measuring military knowledge. Three types of military knowledge were examined (subjective, instrumental, and symbolic knowledge), each providing a unique way of characterizing knowledge. However, the subjective knowledge measure considered here clearly was inferior to the other knowledge measures in terms of providing diagnostic information regarding how youth think about the Military and what they actually know. Where possible, measures of subjective knowledge should be supplemented with other knowledge indicators, such as declarative knowledge tests or knowledge structure mapping.

By incorporating knowledge structure maps into future advertising and recruiting research, the Military can achieve a much deeper level of understanding of the Military image or "brand" among youth. The paired-comparison procedures used to derive the knowledge structure maps are advantageous in that they are deduced through systematic, quantitative procedures. Although interpretation relies more heavily on qualitative comparisons, the rigor of the maps can be evaluated in comparison to statistical benchmarks or by replication. A variety of useful applications, including Service-level mapping or mapping the relationships among a different set of key concepts can be achieved using this approach.

## References

- Aaker, J.L. (1999). The malleable self: The role of self-expression in persuasion. *Journal of Marketing Research*, 36, 45-57.
- Cable, D.M. & Graham, M.E. (2000). The determinants of job seekers' reputation perceptions. *Journal of Organizational Behavior*, 21, 929-947.
- Collins, C.J. & Stevens, C.K. (2002). The relationship between early recruitment-related activities and the application decisions of new labor-market entrants: A brand equity approach to recruitment. *Journal of Applied Psychology*, 87, 1121-1133.
- Einhorn, H.J. & Hogarth, R.M. (1981). Behavioral decision theory: Processes of judgment and choice. *Annual Review of Psychology*, 32, 53-88.
- Emanuel, S., Marsh, S., Marsh, K., Fors, J., Boehmer, M., & Zucker, A. (2004). *Department of Defense Youth Poll Wave 8 - November 2004*. JAMRS Report No. 2004-006, Department of Defense.
- Gatewood, R.D., Gowan, M.A., & Lautenschlager, G.J. (1993). Corporate image, recruitment image, and initial job choice decisions. *Academy of Management Journal*, 36(2), 414-427.
- Giambo, P. (1996). *The youth attitude tracking study in-depth interviews: Youth knowledge about military life*. Paper presented at the 38<sup>th</sup> Annual Conference of the International Military Testing Association. San Antonio, TX.
- Goldsmith, T.E. & Davenport, D.M. (1990). Assessing structural similarity of graphs. In R. Schvaneveldt (Ed.), *Pathfinder Associative Networks: Studies in Knowledge Organization*, pp. 75-87. Norwood, NJ: Ablex.
- Goldsmith, T.E., Johnson, P.J., & Acton, W.H. (1991). Assessing structural knowledge. *Journal of Educational Psychology*, 83, 88-96.
- Joint Advertising, Market Research and Studies Program (2001-2004). *Youth Polls 1-8*. Arlington, VA: Defense Human Resources Activity.
- Jonassen, D.H. (1993). Changes in knowledge structures from building semantic net versus production rule representations of subject content. *Journal of Computer-Based Instruction*, 20, 99-106.
- Keller, K.L. (1998). *Strategic brand management*. Upper Saddle River, NJ: Prentice Hall.
- Kraiger, K., Salas, E., & Cannon-Bowers, J.A. (1995). Measuring knowledge organization as a method for assessing learning during training. *Human Factors*, 37(4), 804-816.
- Legree, P. & Pifer, M. (1996). Military enlistment propensity: Current incentives and new directions for research. Paper presented at the annual convention of the American Psychological Association, Toronto, Canada.
- Lievens, F., & Highhouse, S. (2003). The relation of instrumental and symbolic attributes to a company's attractiveness as an employer. *Personnel Psychology*, 56, 75-102.
- Marsh, K. A., Emanuel, S., Bader, P. & Marsh, S. M. (2004). *Building Stronger Alliances between the Military and High School Educators: From the Educators' Perspective*. JAMRS Report No. 2004-004, Department of Defense.
- Rynes, S., Bretz, R., & Gerhart, B. (1991). The importance of recruitment in job choice: A different way of looking. *Personnel Psychology*, 44, 487-521.
- Schvaneveldt, R. (1990). *Pathfinder Associative Networks: Studies in Knowledge Organization*, pp. 75-87. Norwood, NJ: Ablex.
- Spence, A.M. (1973). Job market signaling. *Quarterly Journal of Economics*, 87, 355-374.

- Tajfel, H., & Turner, J.C. (1985). The social identity theory of intergroup behavior. In S. Worchel and W.G. Austin (Eds.), *Psychology of Intergroup Relations* (2<sup>nd</sup> ed., pp. 7-24). Chicago: Nelson-Hall.
- Zimbardo, P.G. & Leippe, M.R. (1991). *The psychology of attitude change and social influence*. New York: McGraw-Hill

Table 1. Demographic Breakdown of Participating Counties and National Average.

Demographics	Houston, TX	Orlando, FL	National Average
% White	58.7	68.6	75.1
% Black	18.5	18.2	12.3
% Hispanic	32.9	18.8	12.5
% High School Graduates	74.6	81.8	80.4
% College Graduates	26.9	26.1	24.4
Median household income	\$42,598	\$41,311	\$41,994
2004 Number of accessions	2,251	654	NA

*Sources:* Race, education and income data was obtained from the 2000 U.S. Census Bureau. Accessions data was obtained from the 2003 American Community Survey and Recruit Market Information System (RMIS).

Table 2. Means, Standard Deviations, and Correlations of Key Variables.

	Mean	SD	1	2	3	4	5	6	7
1. Gender <sup>1</sup>	1.42	.50	--						
2. Education <sup>2</sup>	--	--	.07	--					
3. Income <sup>3</sup>	--	--	-.04	-.01	--				
4. # friends/ family who have/are serving in the Military	1.27	.91	.00	.09	.06	--			
5. Subjective Knowledge <sup>4</sup>	5.04	1.88	-.24**	.01	.01	.23**	--		
6. Factual Knowledge <sup>5</sup>	12.50	3.84	-.11	.26**	.07	.33**	.29**	--	
7. Propensity <sup>6</sup>	1.45	.50	-.19*	-.23**	-.14	.01	.29**	-.15	--
8. Expertise <sup>7</sup>	.18	.04	.06	.23*	.02	.11	.01	.31**	.25**

\*  $p < .05$ . \*\*  $p < .01$ .

<sup>1</sup> For Gender: 1 = male, 2 = female

<sup>2</sup> Education was measured as the highest level of education completed using the following response categories: (a) Some High School, (b) High School degree, (c) Some college, (d) Junior/Community College degree, (e) Vocational/Trade School degree, (f) 4-year college degree, (g) Master's degree or higher

<sup>3</sup> Income was measured using the following response categories: (a) Less than \$25,000, (b) \$25,000-\$30,000, (c) \$30,000-\$40,000, (d) \$40,000-\$60,000, (e) \$60,000-\$80,000, (f) \$80,000-\$100,000, (g) More than \$100,000, (h) Don't know/refuse

<sup>4</sup> For Subjective Knowledge, 1 = Not at all knowledgeable and 10 = Extremely Knowledgeable

<sup>5</sup> Factual Knowledge scores ranged from 11%-85% and reflected the percent correct

<sup>6</sup> For Propensity, 1= Non-propensed, 2= Propensed

<sup>7</sup> Expertise scores were computed using the Closeness (C) index, which ranges from 0 (no similarities between youths' and recruiters' knowledge structures) to 1 (no differences between youths' and recruiters' knowledge structures)

Table 3. Military Factual Knowledge Multiple Choice Test Percent Correct by Group.

I. General Knowledge of the U.S. Military	Non-Propensed Youth	Propensed Youth	Enlistees	Recruiters
American males must register for draft eligibility at age: A. 16 <b>B. 18 (correct)</b> C. 17 D. 20 E. 21	94%	94%	87%	100%
Who was the Commander-in-Chief of the U.S. Military during the past year? A. Colin Powell B. Arnold Schwarzenegger C. Bill Gates <b>D. George W. Bush (correct)</b> E. Dick Cheney	53%	48%	68%	100%
In the U.S. Military, the term AWOL means: A. Absent While On Location B. Army War Officers' Liberty <b>C. Absent Without Leave (correct)</b> D. Authorized While On Location E. Authorized Without Limitation	64%	56%	75%	100%
Which of the following is true regarding Commissioned and Non-Commissioned Officers (NCO's)? A. NCO's always have a higher rank than Commissioned officers B. It is only possible to become a Commissioned officer by attending one of the Military academies. <b>C. NCO's are exclusively enlisted personnel. (correct)</b> D. Commissioned officers have more technical expertise. E. None of the above are true.	26%	25%	34%	100%
Which of the following is NOT one of the Active Duty Services of the U.S. Military? A. Army B. Marine Corps C. Navy <b>D. New York Police Department (NYPD) (correct)</b> E. Coast Guard	99%	91%	98%	100%



Table 3. Military Factual Knowledge Multiple Choice Test Percent Correct by Group (continued).

II. Benefits of the U.S. Military	Non-Propensed Youth	Propensed Youth	Enlistees	Recruiters
Typically, the monthly pay of an entry level recruit in the U.S. Military (E-1) is about _____ per month.				
A. \$100				
<b>B. \$1,000 (correct)</b>	48%	59%	75%	100%
C. \$200				
D. \$5,000				
E. More than \$5,000				
How much vacation time do members of the U.S. Military receive per year?				
A. 2 days				
B. 7 days				
C. 5 days	62%	46%	87%	100%
<b>D. 30 days (correct)</b>				
E. 60 days				
What does DEP stand for in the U.S. Military?				
A. Delayed Employment Process				
B. Distant Employment Process				
C. Distant Engagement Process	26%	35%	83%	100%
<b>D. Delayed Entry Program (correct)</b>				
E. Defense Energy Program				
Which of the following is NOT a benefit of joining the U.S. Military?				
A. Money for college				
B. Free or discounted meals and housing				
<b>C. Stock Options (correct)</b>	51%	49%	72%	60%
D. Health insurance				
E. All of the above are benefits of joining the U.S. military				

Table 3. Military Factual Knowledge Multiple Choice Test Percent Correct by Group (continued).

III. Careers/Commitment and the U.S. Military	Non-Propensed Youth	Propensed Youth	Enlistees	Recruiters
A Private or E-1 usually has been in the U.S. Military for: <b>A. 1 to 4 years (correct)</b> B. 6 to 8 years C. 4 to 6 years D. 8 to 12 years E. More than 12 years	68%	64%	98%	100%
What is the main difference between enlisted Service members and officers? A. Officers have been in the Military longer <b>B. Officers take on more of a managerial role (correct)</b> C. Only enlisted Service members are sent into combat D. Only enlisted Service members make up the Active Services E. Enlisted Service members are still in basic training	49%	30%	66%	100%
If a person enlisted for Active Duty in the U.S. Military, how many years would he/she have to serve? A. Two years in the Active military ONLY B. Two years in the Active military AND two years in the Reserves C. Four years in the Active military ONLY <b>D. Eight years in the Active military AND the Reserves combined (correct)</b> E. Eight years in the Active military AND eight years in the Reserves	3%	5%	26%	80%
Which of the following is the best description of a Warrant Officer? A. An officer of the Military police B. An officer of legal affairs <b>C. An officer with a technical expertise (correct)</b> D. An officer with general leadership abilities E. An officer in charge of basic training	5%	19%	26%	100%
Approximately what percentage of jobs in the U.S. Military are open to women? <b>A. 95% (correct)</b> B. 50% C. 65% D. 35% E. 10%	35%	40%	55%	60%

Table 4. Military Factual Knowledge Multiple Choice Test Percent Correct by Group (Service-specific items).

I. Army	Non-Propensed Youth	Propensed Youth	Enlistees	Recruiters
Regarding the U.S. Army, identify the highest rank among the following: A. Second Lieutenant B. Master Sergeant <b>C. Major (correct)</b> D. First Lieutenant E. Captain	30%	29%	38%	100%
The largest organized Army unit is a _____. A. Battalion B. Division C. Brigade <b>D. Corps (correct)</b> E. Squad	40%	32%	28%	20%
Which of the following is NOT a core U.S. Army value? <b>A. Hope (correct)</b> B. Honor C. Duty D. Selfless Service E. All of the above are core Army values	22%	25%	32%	80%

Table 4. Military Factual Knowledge Multiple Choice Test Percent Correct by Group (Service-specific items)  
(continued).

II. Navy	Non-Propensed Youth	Propensed Youth	Enlistees	Recruiters
Females can hold any of the following positions in the Navy EXCEPT: A. Navy Diver B. Navy Cryptologist <b>C. Navy Seal (correct)</b> D. Navy Seabee E. Navy Health Care Provider	49%	56%	70%	80%
The Navy will pay up to _____ percent of tuition for Active Duty sailors taking college credits during off duty time. <b>A. 100 (correct)</b> B. 50 C. 75 D. 25 E. 5	73%	65%	62%	80%
III. Marine Corps	Non-Propensed Youth	Propensed Youth	Enlistees	Recruiters
What is the Marine Corps motto? <b>A. Semper Fi (correct)</b> B. Be Prepared C. Carpe Diem D. Aim High E. An Army of One	51%	46%	72%	100%
The Marine Corps Officer Candidate School (OCS) is located in: A. Colorado Springs, CO <b>B. Quantico, VA (correct)</b> C. West Point, NY D. Mobile, AL E. Annapolis, MD	26%	24%	40%	100%

Table 4. Military Factual Knowledge Multiple Choice Test Percent Correct by Group (Service-specific items)  
(continued).

IV. Air Force	Non-Propensed Youth	Propensed Youth	Enlistees	Recruiters
After successful completion of Basic Military Training (BMT) in the Air Force, cadets are paid based on all of the following EXCEPT:				
<b>A. Gender (correct)</b>				
B. Time in the Air Force	69%	40%	55%	100%
C. Rank				
D. Dependents				
E. Where one lives				
V. Coast Guard	Non-Propensed Youth	Propensed Youth	Enlistees	Recruiters
Which of the following is NOT one of the Coast Guard's goals?				
A. Maritime Safety				
<b>B. Protection of U.S. skies (correct)</b>	66%	65%	70%	80%
C. Protection of Natural Resources				
D. Maritime Security				
E. National Defense				
What is the translation of the Coast Guard's motto, Semper Paratus?				
A. Be Prepared				
B. Aim High				
<b>C. Always Ready (correct)</b>	46%	37%	43%	100%
D. The Few, The Proud				
E. Always Sailing				

Table 4. Military Factual Knowledge Multiple Choice Test Percent Correct by Group (Service-specific items)  
(continued).

VI. National Guard / Reserves	Non-Propensed Youth	Propensed Youth	Enlistees	Recruiters
What is the main difference between the National Guard and the Reserves?				
A. The National Guard is NOT part of the U.S. Military.				
B. The Reserves can be governed by BOTH state and federal governments.				
<b>C. The National Guard can be governed by BOTH state and federal governments. (correct)</b>	34%	35%	40%	80%
D. The National Guard is a college program for individuals interested in joining the Military.				
E. There is NO difference between the National Guard and the Reserves.				
What is the difference between the Active and Reserve Services?				
A. Reserves ONLY respond to crises within U.S. borders.				
B. Active Duty members train near home part-time during peacetime.				
<b>C. Active Duty members are ALWAYS full-time military personnel. (correct)</b>	62%	35%	40%	80%
D. Reserves are ALWAYS sent into combat first.				
E. There are NO differences between Active and Reserve Services.				
About how many days each year do members of the U.S. Reserves have to report for duty during peacetime?				
<b>A. One weekend a month and one two week period during the year (correct)</b>				
B. Two weekends a month throughout the year	51%	40%	64%	100%
C. Every other weekend and one two week period during the year				
D. Every weekend and one two week period during the year				
E. Every day throughout the year				

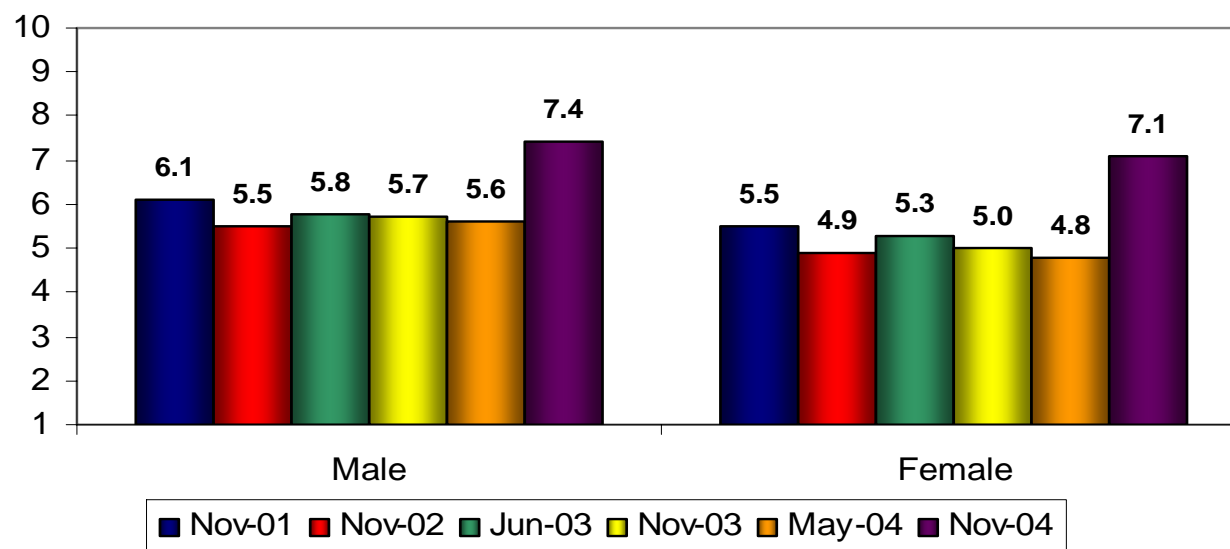
Table 5. Closeness (C) Measure of Similarity Between Structural Knowledge Maps.

Comparison Groups	C Index
Propensed Youth vs. Non-Propensed Youth	.37*
Propensed Youth vs. Enlistees	.19*
Propensed Youth vs. Recruiters	.22*
Non-Propensed Youth vs. Enlistees	.21*
Non-Propensed Youth vs. Recruiters	.19*

\*  $p < .05$

*Note.* Significant results indicate no overall difference between the knowledge structure maps.

Figure 1. Subjective Knowledge By Gender (*Source: JAMRS Youth Polls*)



*Note.* Subjective Knowledge measured on a 10-point scale where 1 = Not at all knowledgeable and 10 = Extremely knowledgeable.  
*Source:* Emanuel, S., Marsh, S., Marsh, K., Fors, J., Boehmer, M., & Zucker, A. (2004). Department of Defense Youth Poll Wave 8 - November 2004. JAMRS Report No. 2004-006, Department of Defense.



Figure 2. Summary of the Relationships between Different Types of Military Knowledge and Youth Propensity.

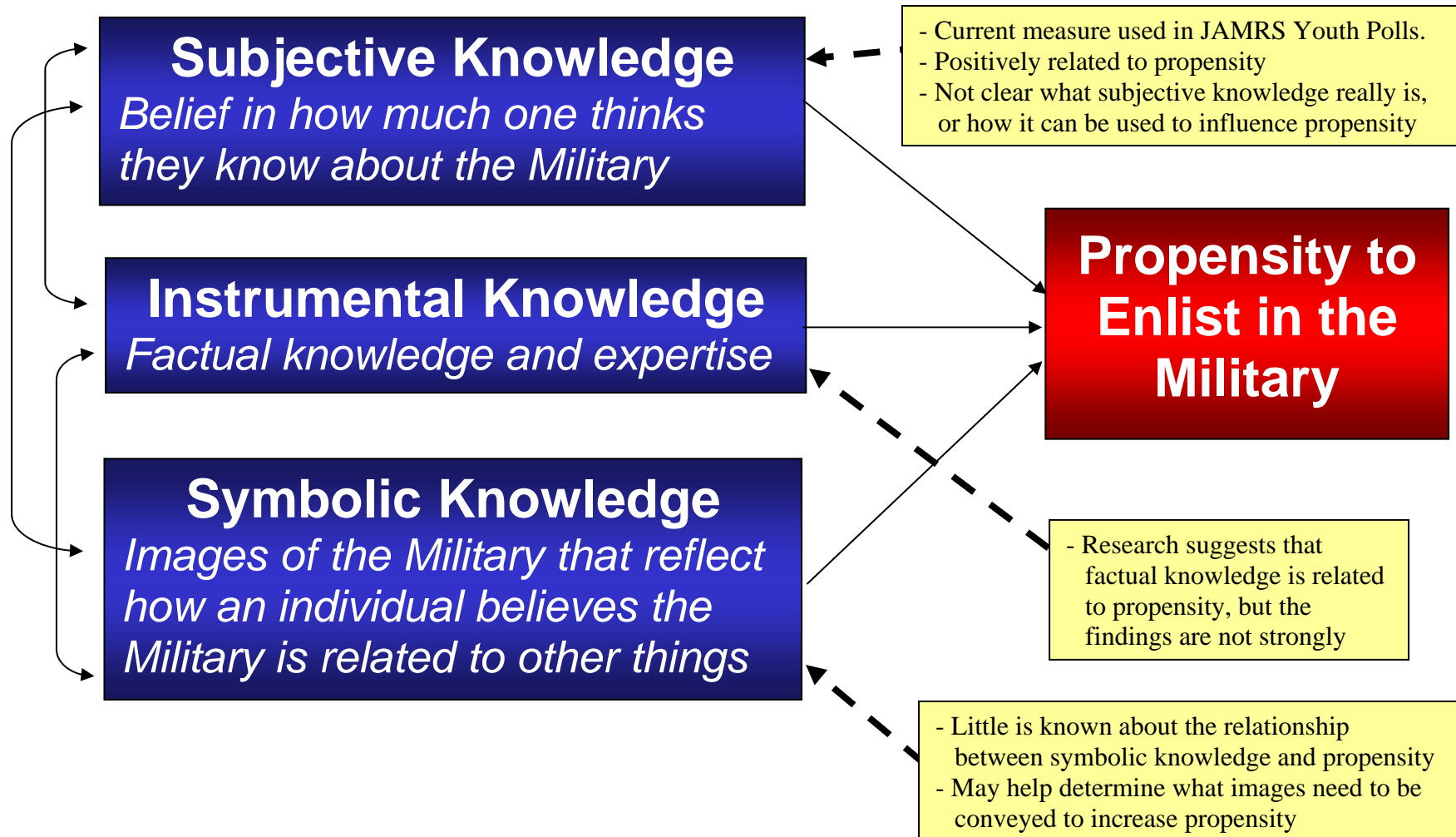


Figure 3. Youth Sample Demographics: Gender.

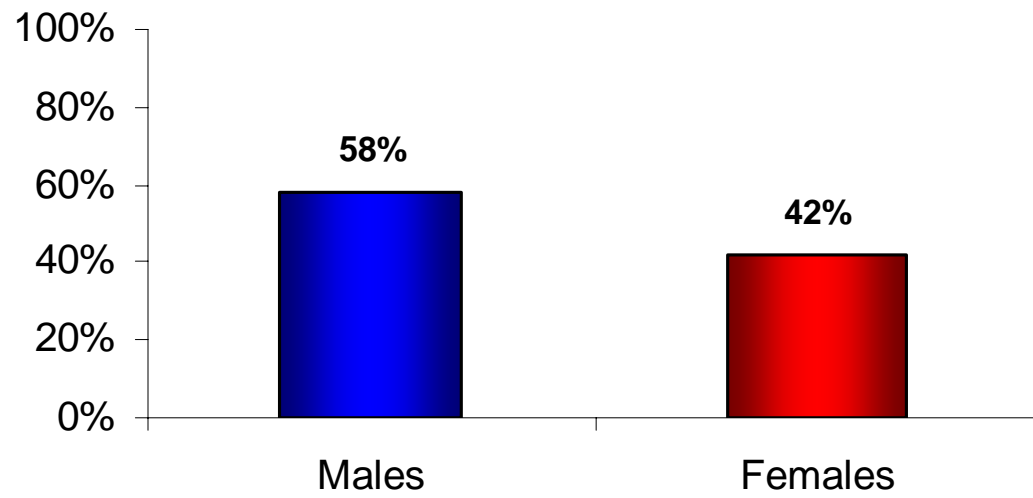


Figure 4. Youth Sample Demographics: Race/Ethnicity.

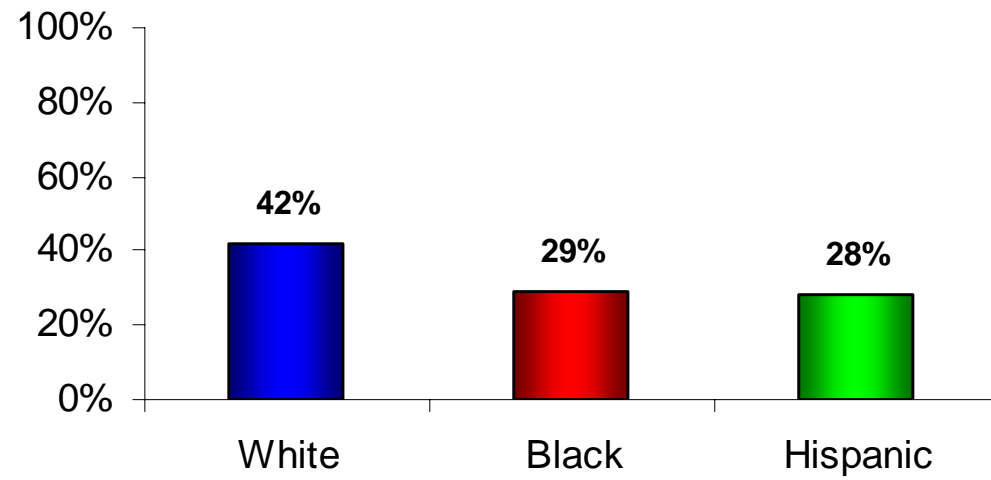


Figure 5. Youth Sample Demographics: Highest Level of Education Completed.

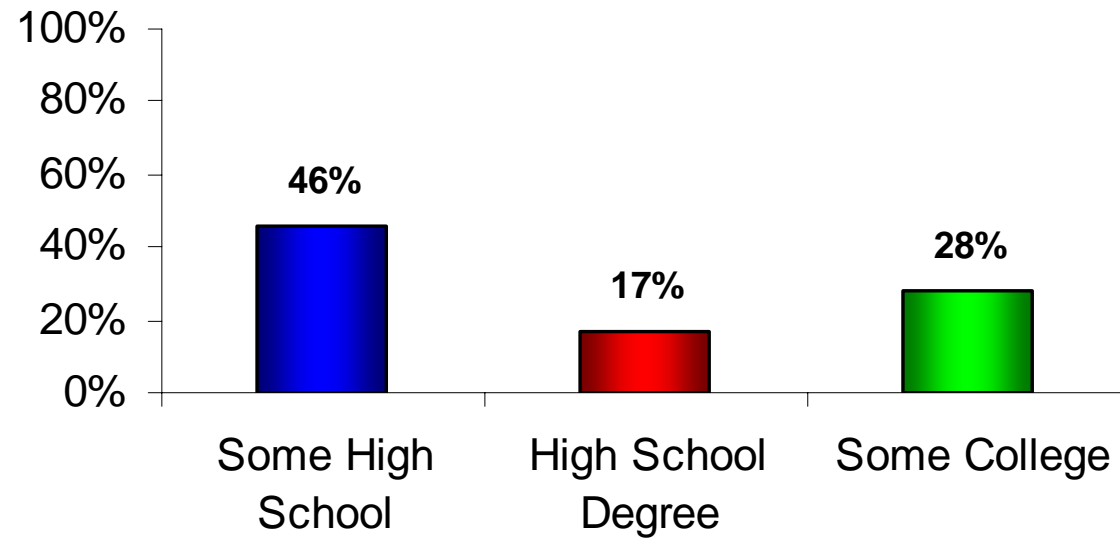


Figure 6. Youth Sample Demographics: Income Level.

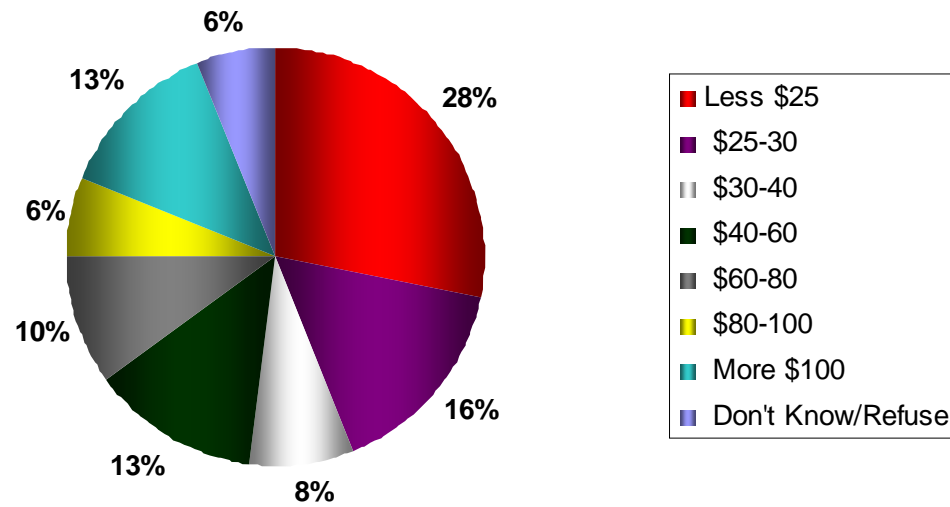


Figure 7. Mean Subjective Military Knowledge Ratings by Group.

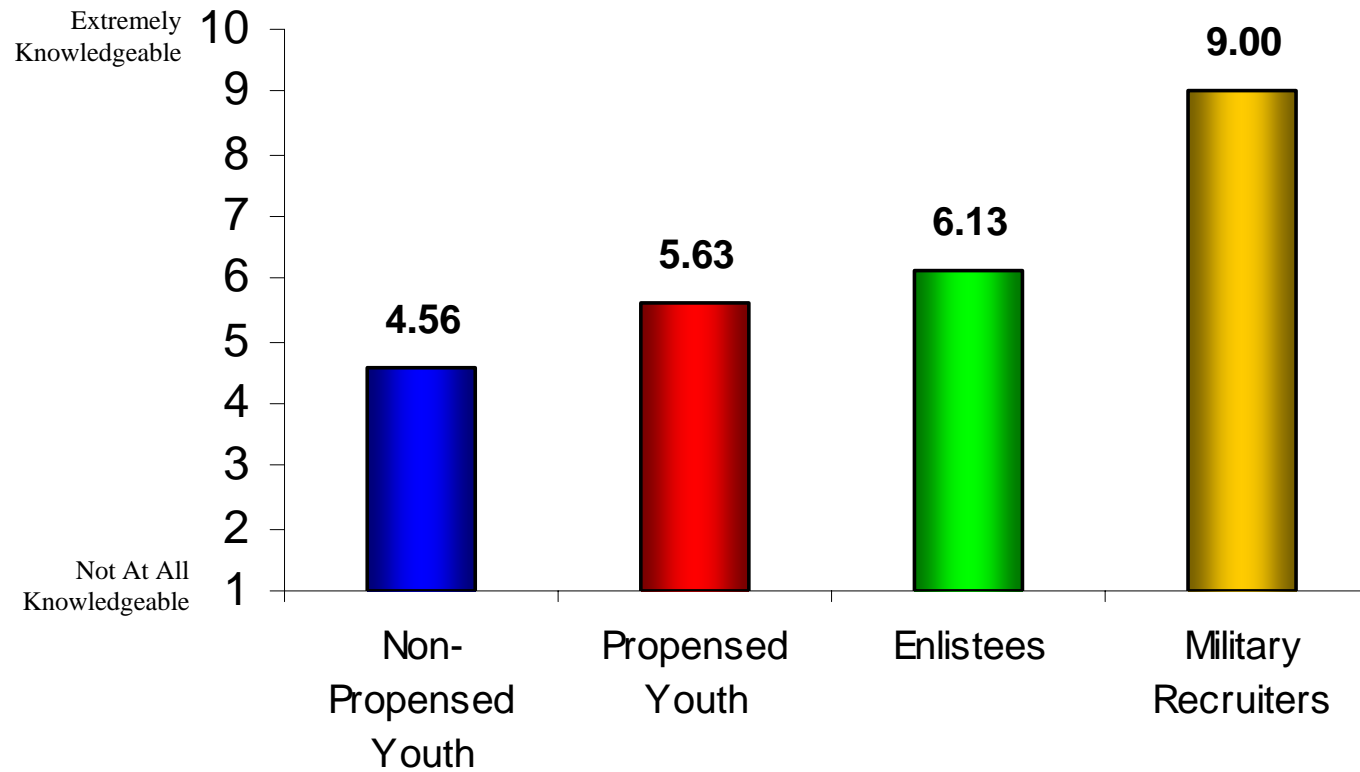


Figure 8. Military Factual Knowledge Multiple Choice Mean Test Scores by Group.

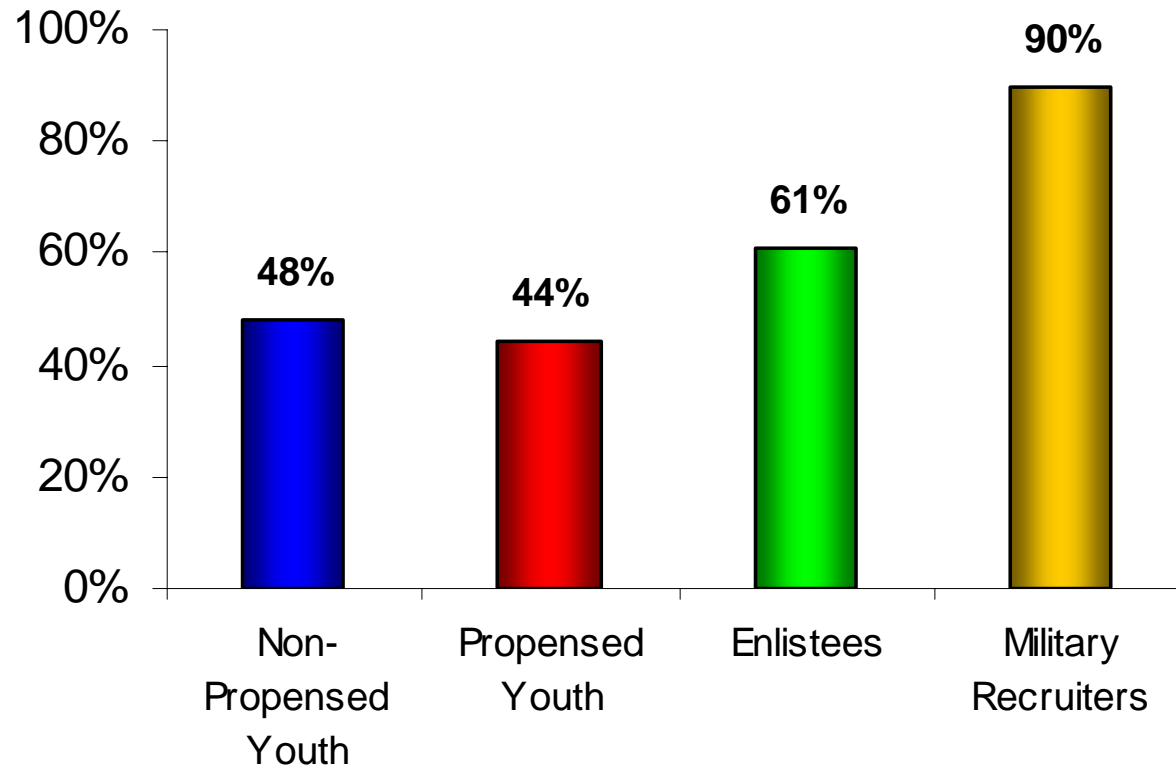


Figure 9. Propensed Youth Knowledge Structure Map.

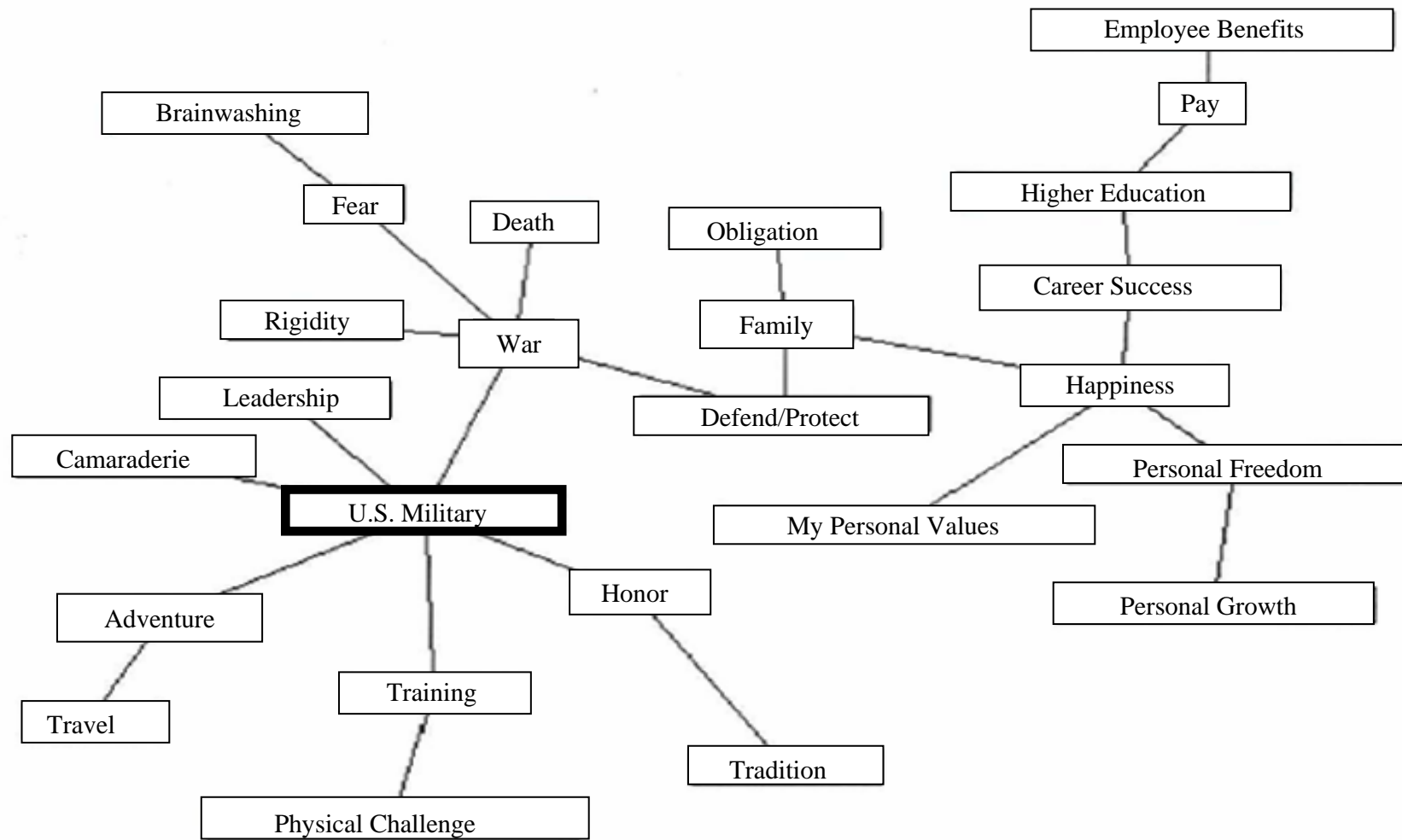




Figure 10. Non-Propensed Youth Knowledge Structure Map.

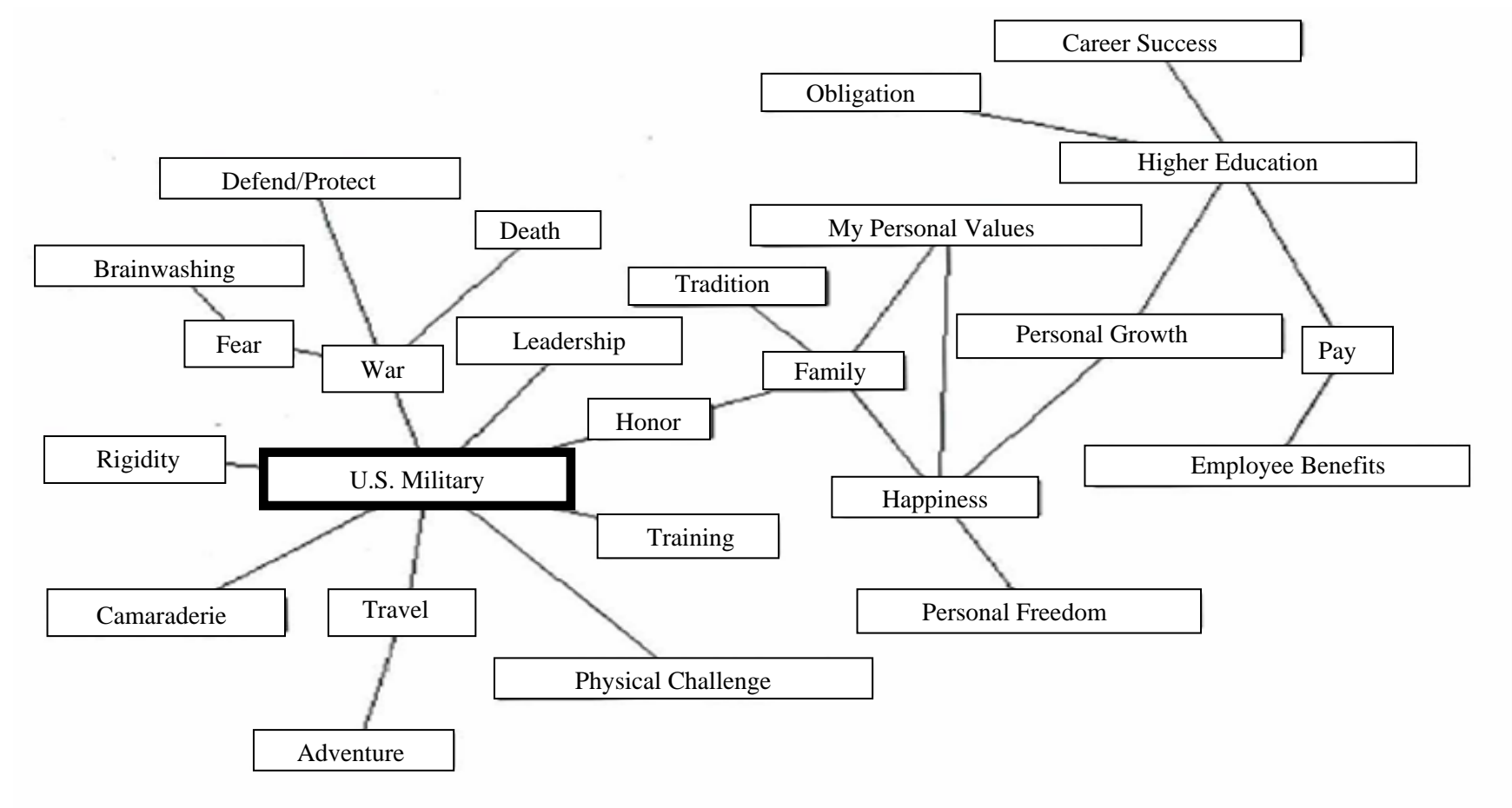


Figure 11. Enlistee Knowledge Structure Map.

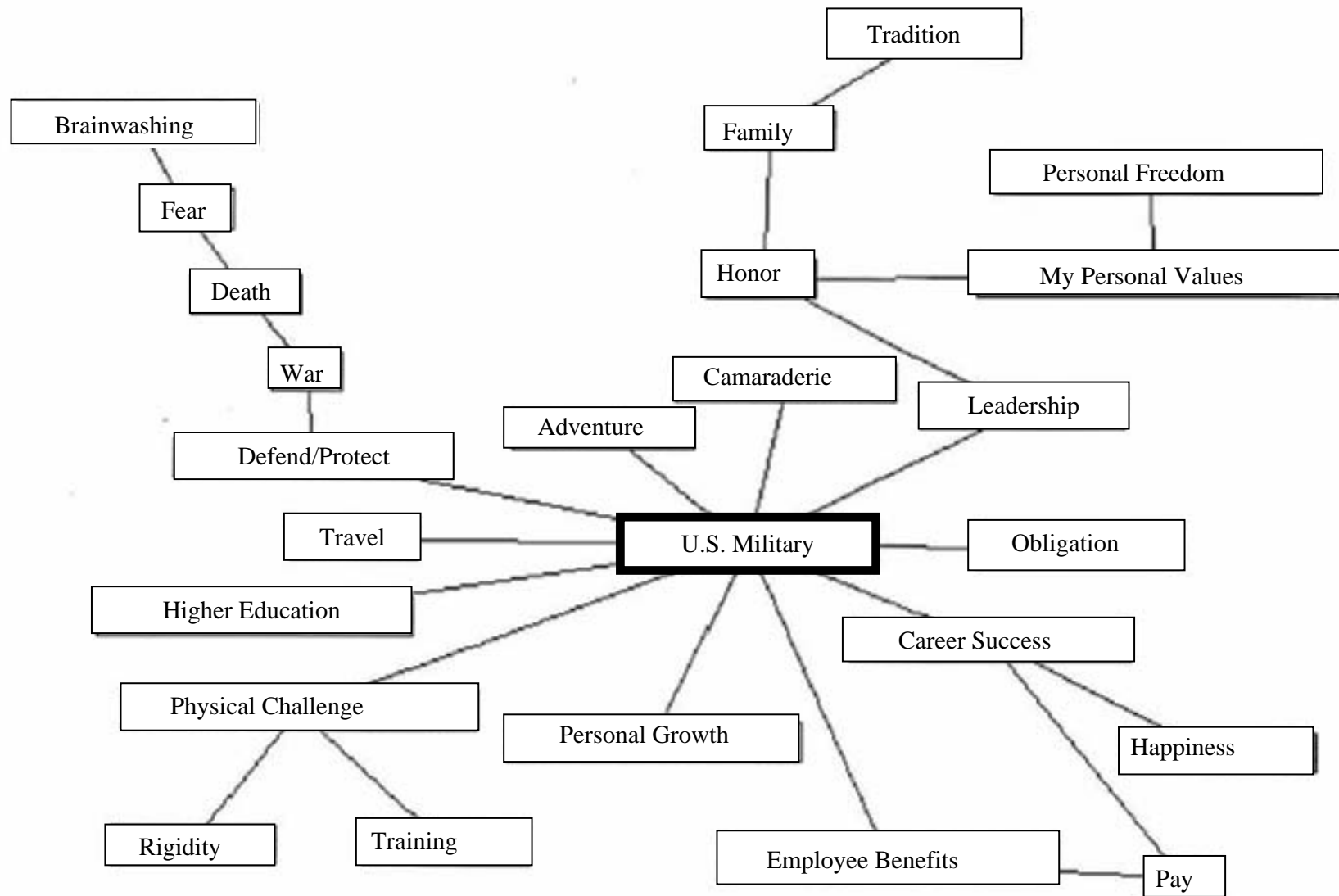


Figure 12. Military Recruiter Knowledge Structure Map.

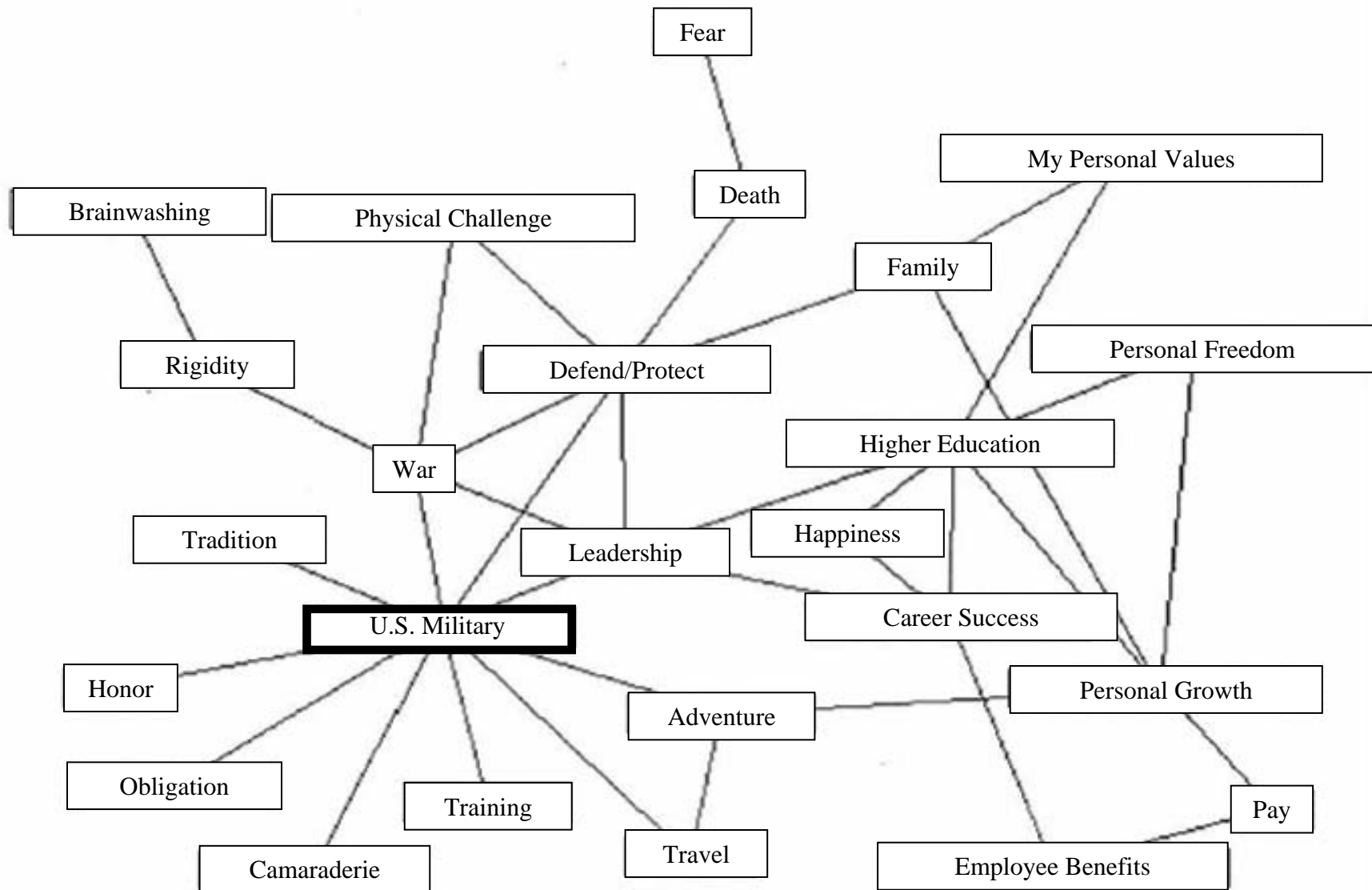


Figure 13. Propensed Youth: Connection between Personal Concepts and Military Concepts.

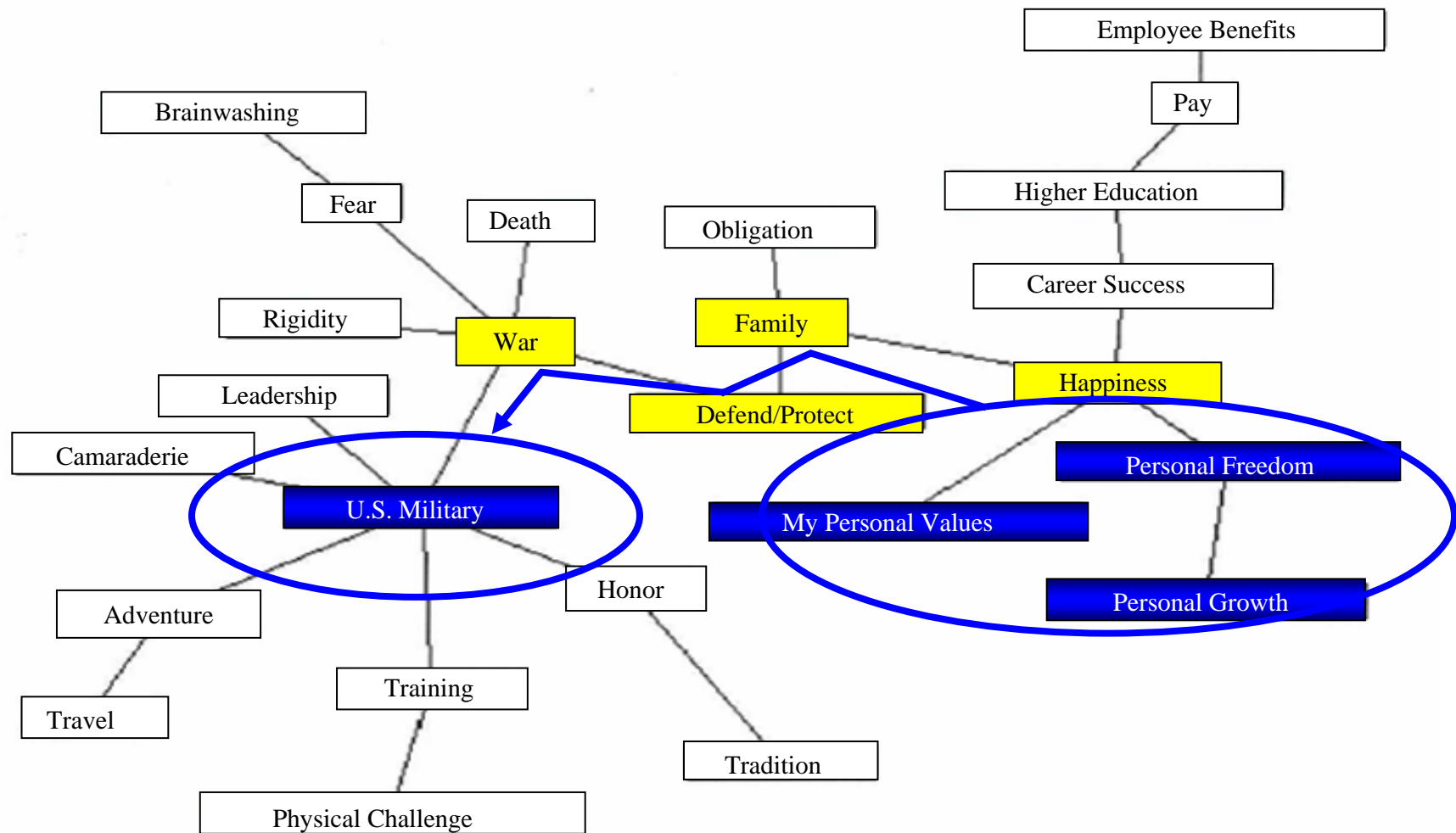


Figure 14. Non-Propensed Youth: Connection between Personal Concepts and Military Concepts.

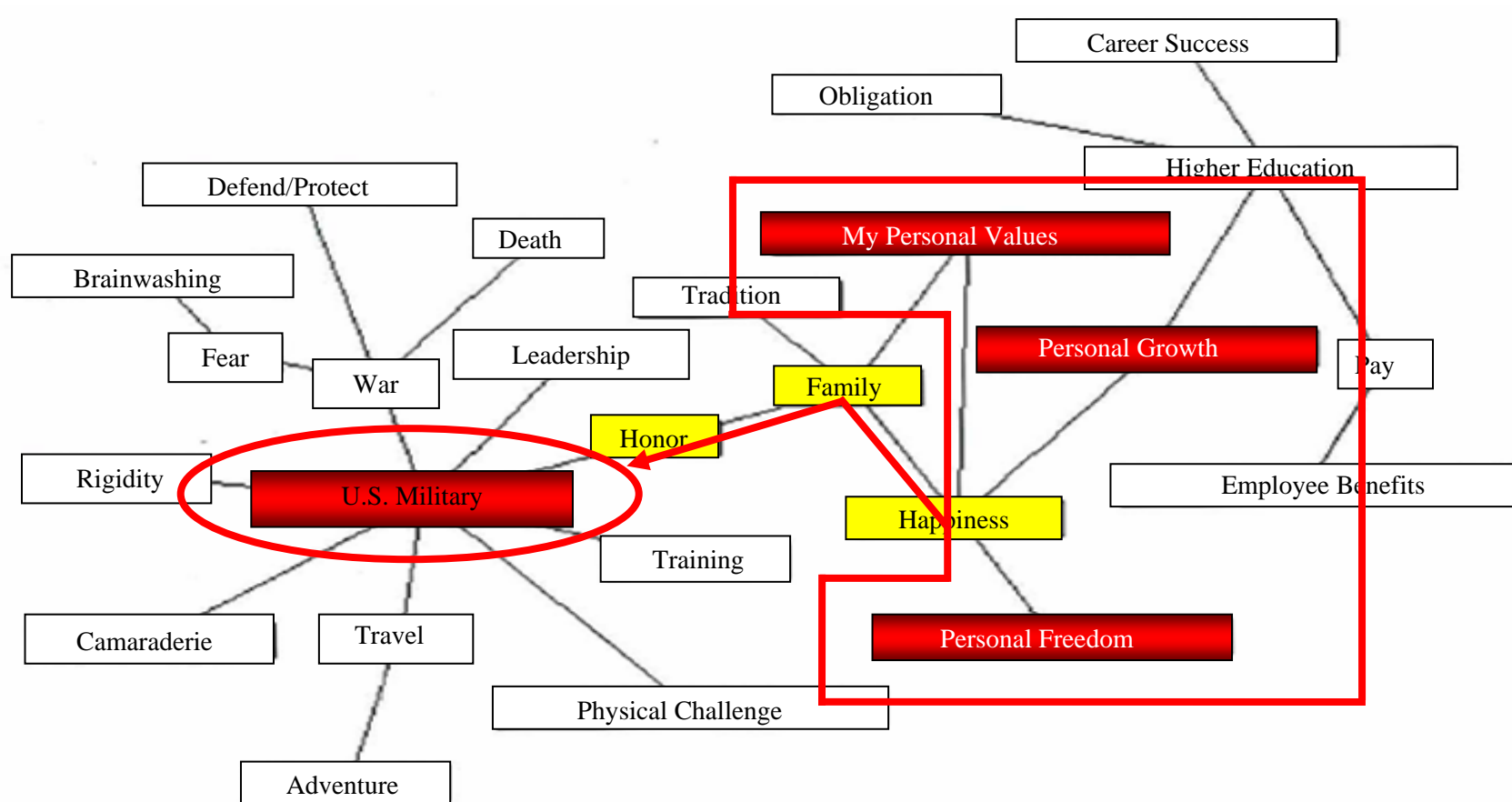


Figure 15. Military Knowledge at Different Stages of the Recruiting Process.

